ABSTRACT OF THE DISCLOSURE

A method and apparatus for measuring bandwidth of light emitted from a laser is disclosed which may comprise: a first and second wavelength sensitive optical bandwidth detectors providing, respectively, an output representative of a first parameter indicative of the bandwidth of the emitted light as measured respectively by the first and second bandwidth detectors, and an actual bandwidth calculation apparatus adapted to utilize these two outputs as part of a multivariable linear equation employing predetermined calibration variables specific to either the first or the second bandwidth detector, to calculate a first actual bandwidth parameter or a second actual bandwidth parameter. The first actual bandwidth parameter may be a spectrum full width at some percent of the maximum ("FWXM"), and the second actual bandwidth parameter may be a portion containing some percentage of the energy ("EX"). The first and second bandwidth detectors may an etalon and the outputs may be representative of a fringe width of a fringe of an optical output of the respective etalon at FWXM. The precomputed calibration variables may be derived from respective three dimensional plots representing, respectively, detector outputs in relation to a calibrating input light with known values of the first and second actual bandwidth parameters, which may be FWXM and EX. The first/second three dimensional plot may provide a solution: (first/second output) = (a/d * (calibrating input light known value of FWXM)) + (b/e* (calibrating input light known value of EX) +c/f; and the actual bandwidth calculation apparatus may use the derived equation: (first actual bandwidth parameter) = ((b * (second output)) – (e * (first output)) + ce – bf) / (bd – ae), or the equation: (second actual bandwidth parameter) = ((a * (second output)) – (d * (first output)) + cd – af) / (ae – bd). FWXM may be FWHM and EX may be E95. The transfer function of the first optical bandwidth detector may be selected to be much more sensitive to FWXM than to EX and the transfer function of the second optical bandwidth detector may be selected to be much more sensitive to EX than to FWXM.